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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,987	02/11/2004	Johannes Martinus Dina Goossens	120329-3	6090

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CANTOR COLBURN LLP - GE PLASTICS - SMITH
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EXAMINER

WOLLSCHLAGER, JEFFREY MICHAEL

ART UNIT	PAPER NUMBER
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1732

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/777,987	GOOSSENS ET AL.	
	Examiner	Art Unit	
	Jeff Wollschlager	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-24,27 and 30-34 is/are pending in the application.
- 4a) Of the above claim(s) 30-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-24 and 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of Group I, claims 1, 4-24 and 27 in the reply filed on January 30, 2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 30-34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not identify the mailing address of each inventor. A mailing address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing address should include the ZIP Code designation. The mailing address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 4-24 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims include the recitation "multiwall". The examiner notes that the limiting effect of the term is unclear. It is unclear what criteria must be met in order for a sheet to be considered a multiwall sheet.

For example, in one interpretation of the term, a normally extruded sheet has at least 4 walls (top, bottom, sides) and is as such a multiwalled sheet. Further, a multilayered sheet could also be considered to be multiwalled. The examiner notes that in the instant publication, U.S. Patent Application Publication 2004/0164446, it is stated: "Multiwall sheets typically comprise a plurality of widthwise repeating sections having nominally identical design and dimensions" (paragraph [0031], emphasis added).

The examiner notes that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Accordingly, the limiting effect of the term multiwall in the claims needs to be clarified.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4-8, 10, 23, 24 and 27 are rejected under 35 U.S.C. 102(b) as being prior art as admitted by applicant in the REMARKS and the Declaration under 37 C.F.R. 1.132 filed April 23, 2004.

In the REMARKS, Applicant states that it was discovered that in 1994 resin meeting the claimed polycarbonate Fries content limitation was employed to produce "single-wall polycarbonate sheet for commercial sale". Accordingly, claims 1, 23, 24, and 27 were amended "in order to limit their claims to multiwall sheet". However, the examiner notes that the amendment does not effectively limit the claims to multiwall sheet since the recitation has been entered in the preamble of the claims and the body of the claims are able to stand alone.

A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Claims 1, 4-22, 24 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Brack et al. (U.S. 6,437,083).

Regarding claim 1, Brack et al. teach a melt process for preparing branched aromatic polycarbonate having Fries structures present at levels less than 2,000 ppm, preferably less than 500 ppm, wherein the polycarbonate is produced by the polymerization of bisphenol-A, a dihydric phenol, and diphenyl carbonate, a diester acid (Abstract; Figure 3; col. 8, lines 22-26). Brack et al. further teach that it is known to extrude polycarbonate for the production of multi-wall sheets (col. 1, lines 24-39).

As to claims 4 and 5, Brack et al. disclose that the Fries structures are preferably at levels less than 500 ppm (col. 8, lines 22-26).

As to claims 6-8, Brack et al. teach the molecular weight is preferably at least 24,000 (col. 7, lines 59-61; Table 2).

As to claim 9, Brack et al. employ bisphenol A as well as other suitable dihydric phenols (Figure 3; col. 5, line 39-col. 6, line 34).

As to claim 10, the polycarbonate produced by the method of Brack et al. would comprise the claimed repeating unit (Figure 4).

As to claim 11, the melt index ratio disclosed by Brack et al. is greater than 1.3 (col. 8, lines 45-60).

As to claims 12-14, Brack et al. disclose extruding polycarbonate (col. 1, lines 24-39) and add that additives may be (i.e. optionally) added (col. 7, lines 45-50). As such, the polycarbonate weight percent levels as claimed are met by the teaching of Brack et al.

As to claims 15-17, Brack et al. disclose the addition of additives (col. 7, lines 45-60).

As to claim 18, Brack et al. disclose that either halogen or hydrocarbon groups may be employed with the bisphenol group (col. 5, lines 39-55).

As to claims 19 and 20, Brack et al. disclose the same claimed process steps and materials. Accordingly, the same physical properties and effects would be achieved.

As to claims 21 and 22, Brack et al. disclose an extrusion process (col. 1, lines 24-38). It is noted that extruders conventionally comprise breaker plates. Brack et al. further discloses processing at about 310 °C (col. 7, lines 30-45, col. 8, lines 34-44).

Regarding claims 24 and 27, Brack et al. teach a melt process for preparing branched aromatic polycarbonate having Fries structures present at levels less than 2,000 ppm, preferably less than 500 ppm, wherein the polycarbonate is produced by the polymerization of bisphenol-A, a dihydric phenol, and diphenyl carbonate, a diester acid (Abstract; Figure 3; col. 8, lines 22-26). Brack et al. further teach that it is known to extrude polycarbonate for the production of multi-wall sheets (col. 1, lines 24-39). Brack et al. teach the molecular weight is preferably at least 24,000 and disclose values between 30,000 and 35,000 (col. 7, lines 59-61; Table 2).

Claims 1, 4, 5, 9, 10, 15--21 are rejected under 35 U.S.C. 102(e) as being anticipated by Conn et al. (U.S. Patent Application Publication 2003/0165685).

Regarding claims 1, 4 and 5, Conn et al. disclose an extrusion process for producing a multilayered article comprising polycarbonate (Abstract) wherein the polycarbonate is a melt polymerized polycarbonate produced from a dihydric phenol and a diester acid (paragraph [0037, 0045-0046, 0055]). The examiner recognizes that Conn et al. does not expressly disclose the claimed Fries content. However, Conn et al. does disclose the same melt polycarbonate as currently claimed, produced from the same claimed raw materials. Therefore it is the examiner's position that the melt polycarbonate produced by Conn et al. necessarily has the same Fries content.

As to claim 9, Conn et al. disclose bisphenol A (paragraph [0037]).

As to claim 10, Conn et al. disclose the same claimed reactants to produce polycarbonate. Accordingly Conn et al. would realize the same claimed conventional repeating unit (paragraph [0037]).

As to claims 15-17, Conn et al. employ blends of additives (paragraph [0034]).

As to claim 18, Conn et al. do not employ halogens.

As to claims 19 and 20, Conn et al. disclose the same claimed process steps and materials. Accordingly, the same physical properties and effects would be achieved.

As to claim 21, Conn et al. filter the polycarbonate (paragraph [0055]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 23 is rejected under 35 U.S.C. 103(a) as being obvious over Brack et al. (U.S. 6,437,083) in view of Numrich et al. (U.S. Patent 6,613,264).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer

in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Regarding claim 23, Brack et al. teach a melt process for preparing branched aromatic polycarbonate having Fries structures present at levels less than 2,000 ppm, preferably less than 500 ppm, wherein the polycarbonate is produced by the polymerization of bisphenol-A, a dihydric phenol, and diphenyl carbonate, a diester acid (Abstract; Figure 3; col. 8, lines 22-26). Brack et al. further teach that it is known to extrude polycarbonate for the production of multi-wall sheets (col. 1, lines 24-39). Brack et al. do not expressly disclose extruding through a melt filter with a pore size of about 10 to about 50 micrometers. However, Numrich et al. disclose extruding polycarbonate through a melt filter with a mesh size between 5 and 50 micrometers (col. 3, lines 15-20).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to employ the filter disclosed by Numrich et al. in the method disclosed by Brack et al., for the purpose as disclosed by Numrich et al. of improving the quality of the extruded material (col. 3, lines 15-20).

Claims 6-8, 11, 22 and 23 are rejected under 35 U.S.C. 103(a) over Conn et al. (U.S. Patent Application Publication 2003/0165685).

As to claims 6-8 and 11 Conn et al. teach the method of claim 1 as discussed in the 102(e) rejection above but do not disclose the claimed molecular weights or melt

index. However, the ordinarily skilled artisan would have readily optimized the molecular weight and melt index of the polycarbonate employed depending on the intended use of the product as is routinely practiced in the art and evidenced by the wide variety of commercially available polycarbonate resins.

As to claim 22, Conn et al. do not expressly disclose the claimed extrusion temperature. However, the extrusion temperature would have been readily optimized by the ordinarily skilled artisan to produce a desired product at a desired operating pressure while ensuring the physical properties of the material were not negatively affected, as is routinely practiced in the art.

Regarding claim 23, Conn et al. disclose an extrusion process for producing a multilayered article comprising polycarbonate (Abstract) wherein the polycarbonate is a melt polymerized polycarbonate produced from a dihydric phenol and a diester acid (paragraph [0037, 0045-0046, 0055]). The melt is filtered through a screen pack (paragraph [0055]). The examiner recognizes that Conn et al. does not expressly disclose the claimed Fries content. However, Conn et al. does disclose the same melt polycarbonate as currently claimed, produced from the same claimed raw materials. Therefore it is the examiner's position that the melt polycarbonate produced by Conn et al. necessarily has the same Fries content. Further, the examiner recognizes that Conn et al. do not specify the mesh size of the screen employed. However, the examiner notes that the selection of the mesh size would have been readily optimized by the ordinarily skilled artisan in view of the level of contaminants in the process, the pressure rating of the equipment and other processing conditions such as extrusion temperature

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as is routinely practiced in the art. As such, the claim is rendered *prima facie* obvious over the teaching of Conn et al.

Claim 23 is alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Conn et al. (U.S. Patent Application Publication 2003/0165685) in view of Numrich et al. (U.S. Patent 6,613,264).

Regarding claim 23, Conn et al. disclose an extrusion process for producing a multilayered article comprising polycarbonate (Abstract) wherein the polycarbonate is a melt polymerized polycarbonate produced from a dihydric phenol and a diester acid (paragraph [0037, 0045-0046, 0055]). The melt is filtered through a screen pack (paragraph [0055]). The examiner recognizes that Conn et al. does not expressly disclose the claimed Fries content. However, Conn et al. does disclose the same melt polycarbonate as currently claimed, produced from the same claimed raw materials. Therefore it is the examiner's position that the melt polycarbonate produced by Conn et al. necessarily has the same Fries content. Further, the examiner recognizes that Conn et al. do not specify the mesh size of the screen employed. However, the examiner notes that the selection of the mesh size would have been readily optimized by the ordinarily skilled artisan in view of the level of contaminants in the process, the pressure rating of the equipment and other processing conditions such as extrusion temperature as is routinely practiced in the art.

Further, Numrich et al. disclose extruding polycarbonate through a melt filter with a mesh size between 5 and 50 micrometers (col. 3, lines 15-20).

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Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to employ the filter disclosed by Numrich et al. in the method disclosed by Conn et al., for the purpose as disclosed by Numrich et al. of improving the quality of the extruded material (col. 3, lines 15-20).

Conclusion

All claims are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Wollschlager whose telephone number is 571-272-8937. The examiner can normally be reached on Monday - Thursday 7:00 - 4:45, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JW

Jeff Wollschlager
Examiner
Art Unit 1732

February 23, 2007


CHRISTINA JOHNSON
SUPERVISORY PATENT EXAMINER

3/2/07